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Honorable Mary Nichols
California Air Resources Board
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RE: SMARTWAY TRACTOR INTERIM REQUIREMENTS AND TEST METHOD ARE NOT IN ACCORDANCE WITH PERFORMANCE-BASED REQUIREMENT

Honorable Mary Nichols,

The EPA/SmartWay Interim Tractor Requirements do not satisfy the performance-based caveat set by the board and should be set aside.

The approval for the requirement of SmartWay tractors is based on the EPA providing a performance based test requirement. The Interim tractor requirements and interim test method provided by the EPA, as a result of the CARB request, do not satisfy the performance-based requirement. EPA's own documentation states these requirements are intended only for long-haul applications. This regulation affects more fleets than just those that operate long-haul equipment.

The requirement of design features as outlined by the Interim SmartWay tractor specification precludes a performance-based comparison. Wind tunnel analysis of roof deflectors and cab extenders show diminishing benefits as the distance between the tractor and trailer increases, and when the vehicle is in the presence of a yawing wind condition. To require these devices it would be necessary to also regulate the distance between the tractor and trailer. Since there are no controls available over wind conditions, the percentage of likelihood a truck encounters a wind must be better understood. To date there are no scientific analyses for the frequency of tractor trailers encountering detrimental wind conditions.

The design requirements for the SmartWay tractor will limit emerging technologies from entering the marketplace and stifle progress toward greater efficiency. We suggest limiting the regulation to requiring no classic style tractors rather than requiring all tractors to be SmartWay certified until SmartWay completes a more comprehensive test protocol. Not requiring SmartWay approved tractors at this time will not affect the goals of the regulation as engine requirements and idle reduction requirements are covered under other CARB regulations.

The EPA/SmartWay Interim Test Method Requirements also do not satisfy the performance-based caveat

The interim test requirements are also design specific by requiring the same design elements as the interim tractor requirements. These requirements preclude the ability to analyze other design combinations that may perform better.

Tractor design components are generally tested under little to no wind conditions and within a short period of time (usually one-day track test). This is not representative of real-world operation of these vehicles. Real-world analysis by one the nations largest fleets found trucks with fuel tank fairings to perform 3.2% lower in fuel economy than trucks with half or no skirts after 12 months of operation. The cause for loss in performance is unknown, but may be due to the heat retention in the fuel tank caused by the skirting. Hot fuel is less volatile producing less energy and lowered fuel economy. This is a legitimate cause for concern that should be understood before a mandate requiring this design feature is set in place.

A recent *Better Business Bureau National Advertising Division* investigation of a dispute between two tractor manufacturers over claims of aerodynamic superiority found both manufacturers were misrepresenting the benefits of their designs because they did not test under real-world conditions (reference case number 4905 against Daimler Trucks by Navistar International, 2008).

The EPA has had this experience with test methods not representing real-world performance with fuel economy labeling of motor vehicles. The EPA was required by law to developed new test methods for motor vehicles. The new test methods take into account several important factors that affect fuel economy in the real world, that were missing from the existing fuel economy tests.

Referencing Federal Register: December 27, 2006 (Volume 71, Number 248)

> *"Under the new methods, the city miles per gallon (mpg) estimates for the manufacturers of most vehicles will drop by about 12 percent on average relative to today's estimates, and city mpg estimates for some vehicles will drop by as much as 30 percent."*

The EPA is currently in the process of developing a more comprehensive test process for heavy duty trucks; until it is complete, there is no scientific basis for design prescriptions identified by the EPA, not to mention estimates for fuel economy improvements from these technologies may be grossly overestimated.

REQUIREMENTS FOR SEMI-TRAILERS LACK EPA VERIFICATION FOR NON-LONG HAUL APPLICATIONS

The savings percentages identified for trailer technologies as verified by the EPA are based on three assumptions; 1) that the tractor pulling the trailer is a sleeper-cab with full aerodynamic package, 2) that the vehicles will operate in the long-haul duty cycle, and, 3) the equipment will not operate in wind conditions that exceed the maximum wind speed required for successful track testing repeatability. Not all fleets affected by this regulation will operate sleeper cabs, in the long-haul duty cycle, and under no wind conditions.

Suggestions for modifications to the regulation

We suggest eliminating the SmartWay tractor requirement until EPA finalizes a more comprehensive test protocol. The “Interim” test method does not satisfy the performance-based requirement requested by the board and since engine requirements and anti-idle requirements are covered under other CARB regulations doing so will not diminish the intended GHG reductions of the rule.
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In light of the fact that all EPA SmartWay attention, to date, has been paid to the long-haul combination, and since operators affected by the rule may operate other duty cycles we propose allowing a phase in for implementing trailer solutions.

The requirement forces imprudent purchases that lack scientific validation. Not all fleets affected by the regulation operate under the same duty-cycle as that which the verified technologies were tested under. Fleets should have the option to choose the solution that is most cost-effective for their operation. CARB acknowledges that savings for the front fairings may be higher if the tractor is shorter than the full height version. Many fleets affected by this regulation have a variety of tractor configurations and could reach the 5% threshold using the front fairing alone. CARB should allow a waiver for fleets that can submit test performance that proves 5% or more with at least one of the three possible treatments; the three possible treatments being a front treatment, and underside treatment, or a rear treatment.

This change will encourage further advancement by manufacturers to continue to research and develop technologies that are both practical and cost-effective. Enforcement will require the responsible party to confirm at least one area of the trailer is treated with an aerodynamic solution.

Forcing fleets to purchase components based on data that is not representative of their own operation is not in accordance to the cost-effectiveness requirements of AB32.

Respectfully yours,

Kathy Rose
Vice President Sales & Marketing